FIREWORKS: BURNED ON THE FOURTH OF JULY

KNOWLEDGE

VOL 5 JUNE 2011

OFFICIAL SAFETY MAGAZINE OF THE U.S. ARMY

'WE HIT THE MOUNTAIN!'

- 'ROUTINE' FLIGHTS
- ALL-TERRAIN VEHICLES
- WATER SAFETY

+

WEAPONS HANDLING

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LEADERS SOLDIERS
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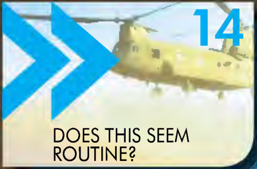
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ARMY SAFE IS ARMY STRONG

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We welcome your feedback. Please e-mail comments to **safe.knowledge@conus.army.mil.**

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LEARNING LESSONS, STAYING SAFE

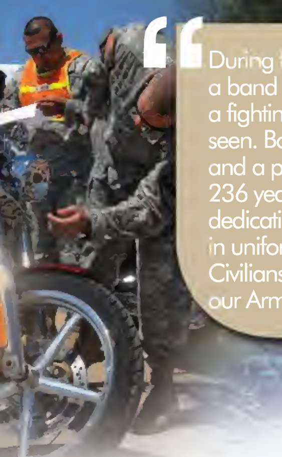
Our Army is beginning the summer on a high note of success: Overall, accidental fatalities are down 14 percent from 2010, and our Soldiers, Family members and Civilians are more dedicated than ever to the fight against preventable deaths and injuries. Every life saved is proof of your hard work and commitment to safety. Thank you all for what you do every day!

When things are going well, however, there's always a risk of complacency setting in. Accidents typically peak during the spring and summer months, and it's especially critical we maintain our vigilance and look out for one another during the weeks ahead. Since past problems tend to repeat themselves, I'd like to take a quick look at the lessons learned from summer 2010.

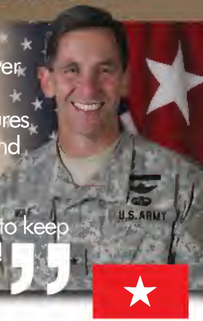
Motorcycles. For the period April 1 to Sept. 30, 2010, more Soldiers died on motorcycles than all other privately owned vehicles combined (31 versus 27, respectively). The numbers have been particularly worrisome in 2011, with motorcycle fatalities reaching an 85 percent increase for the year through the second quarter. Indiscipline — speeding, alcohol use, failure to wear personal protective equipment and/or a lack of proper licensing and training — was identified as a primary contributing factor in a majority of these accidents.

POVs (sedans, vans, trucks and SUVs). Accidents involving POVs comprised the next largest share of accidental fatalities during spring and summer 2010 and, like motorcycles, indiscipline was cited in the bulk of these cases. Although fatal POV accidents as a whole have been on a downward trend the past several years, they remain the No. 1 accidental killer of Soldiers, regardless of season. Nonuse of seat belts continues to be a leading factor and is a key area Leaders should address with their Soldiers.

Pedestrian. We lost seven Soldiers in pedestrian accidents last spring and summer, a marked increase from previous years.



> During the summer of 1775, a band of patriots came together to form a fighting force unlike any the world had ever seen. Born from the seeds of revolution and a passion for freedom, our Army endures 236 years later because of your courage and dedication. I thank each of you — Soldiers in uniform, Family members at home and Civilians in the workplace — for all you do to keep our Army strong. Happy Birthday to you all!



Numbers are down significantly this fiscal year, but as the days get longer and the weather nicer, more Soldiers might choose to walk home if they've had too much to drink. While this might seem a good alternative to driving after drinking, walking while intoxicated is just as risky.

Drowning. Four Soldiers drowned in off-duty accidents during the last half of fiscal 2010, a 100-percent increase from the same timeframe a year before. We've already lost two Soldiers in drowning accidents this fiscal year, and that number could increase as more Soldiers and Family members vacation at beaches and lakes in the coming months.

Other. From April to September 2010, one Soldier died in an ATV accident; one in a negligent discharge incident; one in a boat collision; and one from carbon monoxide poisoning at home. Accidents like these are uncommon, but negligent discharges in particular are on the rise this fiscal year. In fact, we've lost four Soldiers thus far to accidental discharges involving privately owned weapons.

As your Soldiers take advantage of their down time this summer, it's especially important to engage with them and their Family members on everything that can take them out of the fight. Trust built through engagement — by Leaders, peers and Family members — is absolutely necessary to ensure our Soldiers stay safe on the road and in all their off-duty activities. Fostering a command climate where Soldiers feel comfortable talking to their Leaders and each other about potential problems, without fear of retribution, will not only build this trust, but also allow Soldiers to take personal responsibility for their safety and develop greater self-discipline.

The USACR/Safety Center is working every day to make engaging with your Soldiers easier. Our annual Safe Summer campaign is currently underway, and a toolkit featuring posters, videos, informative articles and a presentation template is available through the "Campaign Corner" on our website, https://safety.army.mil. This is also the last month for submissions to our annual Peer to Peer video competition, so encourage your Soldiers to help get the safety message out while winning some cash for their local Better Opportunities for Single Soldiers programs. Finally, be sure to direct your Soldiers to the Training and Doctrine Command's "Off Duty, On Guard" interactive experience, also available on our website. This tool allows users to see the consequences of their decisions by assuming a virtual player's identity in a variety of off-duty situations. Many of the scenarios involve warm-weather activities like boating and are especially relevant this time of year.

We're on the right track to another remarkable year for safety, and I'm confident our successes will continue through the weeks ahead with the commitment of all our Leaders, Soldiers, Families and Civilians. Thank you again for what you do every day, and remember to play it safe this summer!«

Army Safe is Army Strong!

WILLIAM T. WOLF
Brigadier General, USA
Director of Army Safety

FROM BBs TO BULLE

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When I was about 8 years old, I got a Daisy Red Ryder BB gun for Christmas. It was probably the most prized gift I ever received. Before I could shoot it, my father gave me some important instructions that apply to any firearm: "Always treat any gun as if it were loaded, even if you think it is empty, and never point it at anyone." I took him seriously and have applied his advice to every weapon I have encountered since. Unfortunately, Soldiers sometimes forget that advice. An accident that occurred during basic combat training (BCT) reminds us all too painfully that this basic principle of weapons handling must apply to every weapon — from BB guns to .50-caliber machine guns.

The accident took place during the U.S. weapons portion of BCT. The training consisted of classroom instruction, dry fire, day and night live fire of small-arms weapons, and concurrent and simulation training on the M2 .50-caliber machine gun and MK-19 40 mm grenade launcher. The BCT battery was in week six of training and conducting simulations training on the MK-19 and M2 at the Engagement Skills Trainer (EST) complex. Because only a limited number of Soldiers could train on the EST weapons at the same time, concurrent training was set up outside to maximize the instruction time.

A drill instructor (DI) conducted the concurrent training on the M2 on a covered concrete pad adjacent to the EST buildings. The weapons were oriented toward the bleachers occupied by the BCT Soldiers. Once the Soldiers received a block of instruction

“From a BB GUN to a .50-CALIBER machine gun, ALWAYS ORIENT a WEAPON IN A SAFE DIRECTION.”

on the M2, they all moved off the bleachers and got in line for hands-on training using dummy ammunition. However, unknown to the DI, a live round was located on one of the links with the dummy rounds. Although some of the Soldiers discussed how real the round looked, they decided there was no way the DIs would allow a live round to be mixed in with the dummy ammo. This proved a fatal assumption.

The link with the live round was loaded into an M2 and fed through the chamber numerous times during the training. At one point, the weapon jammed. As the DI attempted to unjam it, the live round was chambered and the M2 fired, striking a Soldier in the abdomen as he was walking between the bleachers in front of the weapon. The Soldier died of his wounds.

So how did this accident happen and what could have been done to prevent it?

There were several opportunities to avoid the accident. First, the training battalion failed to stick to the unit and installation standing operating procedure (SOP) that required all ammunition to be turned in following training events. Had the live round been turned in properly, this accident could have been prevented. Also, had the training ammunition been inspected prior to and following training as per the unit SOP, the live round could have been identified before the accident.

This accident might have also been prevented if the BCT Soldiers had received thorough training on the different types of ammunition and how to identify the differences between live and dummy rounds. During the initial classes on the U.S. weapons at the live-fire range, dummy ammunition was used as part of the instruction. Several Soldiers handled the live .50-caliber round that was located in the dummy ammunition can. One Soldier even asked the DI if it was a .50-caliber round, to which the DI replied it was. However, the DI was not close enough to realize that it was a live round. The Soldiers' overconfidence in the DIs, coupled with their own lack of experience and confidence, led to a climate in which they did not question something that troubled them: Why did this round (the live round) look and feel different from the other dummy rounds? Therefore, the live round made its way back into the dummy ammunition can, where it was drawn for the training at the EST site.

Finally, why was the weapon pointed toward the bleachers? Doesn't this go against all of the training we have received throughout our careers? The DI conducting the training was led into a false sense of safety because the EST site is not an actual range, but a simulation facility. The only ammunition that was supposed to be at the site was dummy ammo. Unfortunately, the leadership at the training site that day fell into the same false sense of safety and did not correct the DI's weapon orientation.

We must never forget what has been ingrained into our heads as Soldiers and everyday citizens. From a BB gun to a .50-caliber machine gun, always orient a weapon in a safe direction. Remember, muzzle awareness saves lives.«

The Range & Weapons Safety Toolbox contains information and tools related to the safe handling of privately owned weapons in addition to resources to establish and maintain effective range and weapons safety programs with military weapons.

CHECK IT OUT TODAY!

Editor's note: This article is based upon a recent Army accident investigation. The names of the Soldiers have been changed to protect their privacy.

One hundred and eighty-four mph — that's what the bike could do right off the showroom floor. Pfc. Jesse Morales was well above 100 mph as he bored a hole through the night on a straight section of the divided six-lane highway. Never had he felt so much power at his fingertips. Time, distance and speed all blurred together as he crouched forward over the sport bike's fuel tank. He'd never gone so fast before and still been on the ground.

STRAIGHT into the NIGHT

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The yellow glow of sodium streetlights bathed the road ahead, providing illumination under an otherwise dark, moonless sky. Falling quickly behind in his rearview mirror were the headlights of several cars he'd passed. He'd used the bike's speed and agility to swiftly weave through them, leaving himself an uncluttered straightaway ahead. He wondered how fast the bike's 190 "horses" could push him when there was nothing to hold him back.

Morales rolled on the throttle; the acceleration was incredible. He felt the bike surge ahead and held on tightly. The road sloped slightly downward through a gentle dip. Morales briefly felt a little heavier in the bike's seat as he came out of the dip and began climbing a gentle incline on the other side. Speed — pure adrenaline pumping, heart-thumping velocity — sent him streaking forward like a missile. But the road curved. And the machine desperately wanted to go straight.

Morales was in the far left lane. The faded white lines dividing his lane from the center one suddenly swept beneath his tires as the road gently curved to the left. A second set of white lines quickly flashed below him as he crossed from the middle lane to the far-right — his headlight reflecting off the concrete curb ahead. He saw it! Frozen — caught in an impossible situation — Morales never even touched the brakes. The blinding speed he'd craved had erased all of his options.

The bike's front wheel slammed into the curb, creating a deep, half-moon-shaped dent in the rim. Six feet or so farther onto the shoulder, the bike hit a 2-foot-tall erosion control fence. Constructed of heavy wire fencing secured by steel rebar posts embedded in the ground, it caught Morales, instantly amputating his right leg above the knee. Critically injured, he flew and tumbled more than 40 feet before coming to rest on his stomach, his face toward the road.

Several of the drivers he'd passed moments before saw the accident, called 911 and stopped to help him. But it was too late, as Morales lay motionless on the ground. Only 21 years old, he'd traded the rest of his life for just a few seconds of thrill.

How could something so senseless happen? How could an otherwise intelligent person gamble so much for so little?

The answer is worth considering. Morales had been trained — at least so far as having completed the Motorcycle Safety Foundation's (MSF) Basic RiderCourse (BRC) — more than two years before the accident. However, he'd never identified himself to his Leaders as a rider or gotten a motorcycle license. More importantly, his only prior experience riding had been on a scooter in high school. Neither his MSF training nor his limited

riding experience adequately prepared him for a motorcycle capable of speeds over 180 mph. The impulse to seek a thrill pushed him beyond his capabilities. An experienced rider could've rounded the curve, even at the speed Morales was going. But a wise rider would've realized such speeds should be reserved for race tracks where training and controlled conditions dramatically reduce risks.

And there were other issues to be factored in to this accident. Morales had worked all day, finishing with unit physical training. After work, he'd gone out with a friend and grabbed dinner at a fast food restaurant. After returning to the barracks, he later met up with Pfc. Dale Wright about 10 p.m. and asked to borrow Wright's motorcycle. Wright, who'd attended the BRC with Morales, agreed to lend him his 1000cc sport bike. Morales explained he was going to ride off post to briefly meet some friends and then return.

However, that didn't

"NEITHER A BORROWER

Those words, taken from Shakespeare's play Hamlet, form the basis of some pretty sound advice for Soldiers when it comes to loaning motorcycles to friends. As in Morales' story, the loan of a motorcycle to a friend, while perhaps done with good intentions, doesn't always end up with good results. During recent years, several Soldiers have died riding motorcycles borrowed from other Soldiers. Certainly, none of the Soldiers who lent their bikes to their friends intended that they should die on them, but sometimes obvious risks were ignored. It's worth a moment to look at a synopsis of some of these accidents to see what lessons can be learned.

- A Soldier was invited to a party at a co-worker's home where he drank heavily. The Soldier had expressed an interest in borrowing a friend's motorcycle, despite being told not to ride by several other partiers. Despite that, the Soldier borrowed the motorcycle, started it and sped up and down the street until he lost control at 80 mph and crashed. The Soldier, who wasn't wearing a helmet, suffered massive head trauma and died on the way to the hospital.
- A Soldier was riding a borrowed motorcycle when he lost control, went into a ditch, struck a barbed-wire fence and suffered fatal injuries.
- A Soldier was riding a borrowed motorcycle without having a motorcycle license or having attended the required MSF training. Overconfident, he lacked the experience and training to ride at high speeds and crashed, suffering fatal head and body injuries.

happen. At 11:30 p.m., Morales called his girlfriend and told her he was tired and going back to the barracks to get some rest. It was more than an hour later when he opened up the throttle on that straightaway as he headed back toward post. He'd been up for nearly 17 hours straight and fatigue, according to the National Highway Traffic Safety Administration (NHTSA), takes a toll on any motorist's skills. By increasing reaction times, decreasing awareness and slowing the decision-making process, fatigue subtracts from the skills motorists need to be safe on the highway. NHTSA also found that human circadian sleep patterns play a critical role in influencing driver fatigue and alertness. As in Morales' crash, NHTSA found the deadliest time for fatigue-related crashes is after midnight — a time when the body normally wants to sleep.

There is yet another human factor — the decision to ignore risks inherent in a situation regardless the warnings. The underlying motivation is perhaps best described as overconfidence, the attitude that "it" — whatever the negative consequences might be — either "won't happen to me" or "I can handle it." For Soldiers, who must not only obey state and national laws but also Army regulations, overconfidence can lead to indiscipline — a personal choice to violate the standards they know they should obey. When this happens, it often takes Soldiers out of the risk management cycle, making them vulnerable to the consequences. And while indiscipline in garrison can result in a butt-chewing from a first sergeant, on the road the results can be permanent and tragic. It was for Morales.«

> “For Soldiers, who must not only **OBEY** state and national **LAWS** but also **ARMY REGULATIONS, OVERCONFIDENCE** can **LEAD TO INDISCIPLINE …**”

NOR LENDER BE”

- Two Soldiers were riding together when the one on a borrowed motorcycle lost control, went off the highway and down a steep embankment and was killed.
- A Soldier was riding a borrowed motorcycle when he collided with another Soldier's motorcycle and was thrown into a steel barrier and killed.

While none of the Soldiers who lent their bikes to their friends intended they suffer these kinds of consequences, neither can they change them. Some bad decisions last forever.«

Does THIS Seem ROUTINE?

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The intent of this article is to ignite some thought and consideration on successful mission accomplishment without loss of life or equipment.

The extreme environmental flight conditions in Afghanistan present aircrews with challenging conditions in which to execute a diverse set of missions. Most Soldiers in today's Army have already experienced the Afghanistan area of responsibility (AOR) and are aware of the hazards associated with flight operations. Yet, after several months and 100 to 200 hours of flight time in the AOR, these same Soldiers may look at flight operations as just another day at the office. The attention to detail applied to earlier flight operations have blurred into a "Groundhog Day"-type routine.

The question, "Does this seem routine?" may be your last words. There are several ways to avoid falling into the "routine" ambush.

Pre-deployment Training: While pre-deployment training has evolved greatly over the last seven years, it still tends to lag behind the accident trends. Current accident trends have pinpointed power management, landing in brownout conditions and controlled flight into terrain as the leading mistakes. Simulators can be used to emphasize power management techniques, practice one- and two-wheel landings in mountainous environments and combat maneuvering flight and limited visibility landings (brownout). Initial experiences in the high and hot Afghanistan AOR revealed an issue with power management. However, the High-Altitude Mountain Environmental Training Strategy (HAMETS) is addressing this problem through training at Fort Carson, Colo.

Crew coordination, standard terminology, landing zone (LZ) evaluation of dust and wind conditions and proper scanning techniques are reinforced in all phases of pre-deployment training and cannot be stressed enough. Pre-deployment environmental training must be followed with tailored environmental training programs executed upon arrival in the AOR and reinforced throughout the deployment.

Crew Mix: Commanders, standardization pilots (SPs) and aviation safety officers (ASOs) involved in training must have an intimate knowledge of the strengths and weaknesses of individual crewmembers. Augmenting that knowledge with tools such as a quick reference spreadsheet detailing crewmembers' flight experience in all flight modes, allows Leaders, SPs and ASOs to assign appropriate crews to each mission set. When an assigned flight crew contains two pilots in command (PC) who are both qualified crewmembers, the mission briefer must clearly identify the air mission commander (AMC) and PC, eliminating any question of who is in charge of the aircraft. Consider designating someone other than a PC as the AMC. This will allow them to focus on the mission while the PC focuses on flying the aircraft and working with the flight crew. Non-rated crewmember and door gunner selection requires the same scrutiny as rated crewmembers.

Mission planning: Centralized accident investigations have shown the Army has improved in its mission planning processes, which have undeniably prevented accidents and loss of life. The 160th Special Operations Aviation Regiment is a prime example that covers contingencies from the aviation, maneuver and enemy perspective. Their mission planning is a detailed process, regardless of mission complexity, and a model for all to follow.

Having a close partnership with supported ground elements is paramount. For example, aircrews requiring ground elements to provide individual Soldier weights to the pound as they develop load plans is critical to accurate performance planning. In-flight mission and environmental changes require aircrews to work tabular data in flight and on the objective. The evaluation of wind effects must be continually trained and enforced. Accurate in-flight evaluation of winds and their effects may be the difference between a successful mission and a Class A mishap. Missions conducted carrying heavy loads under high/hot environmental conditions are accomplished successfully only when detailed pre-mission planning, en route planning and appropriate pilot techniques are applied to complement each other.

Command Involvement: Command involvement at all levels is necessary to "check the checker." Mission briefers must ask hard questions rather than signing off their portion of the briefing because the crew assigned the mission has a good reputation. Statistics have shown that you cannot base the probability of a crew experiencing an accident solely on their number of flight hours. Everyone is susceptible. You've heard it said, "Bring your A-game to all mission sets." The fact is we are not always capable of bringing our A-game. We must be humble and recognize when outside factors are affecting our or another's ability to perform. These factors may be as simple as not getting enough sleep, onset of a cold or uncertainty of one's ability to conduct that specific mission or assuming the other aviator can fly the aircraft and complete the mission without help.

In summary, every mission has its unique set of hazards that, on occasion, the controls put in place will not mitigate below a high or extremely high level of risk. In the end, commanders must make the "go/no-go" decision based on solid cost/benefit analysis and aggressive risk management. There is nothing routine about any Army aviation mission. Ask questions to clarify any detail, regardless of how minor it may seem. The answer could save your life and the lives of others. «

Got a story to tell? We'd love to hear it!

Knowledge is looking for contributors in the field to provide us with ground, aviation, driving and off-duty safety articles. You say you've never written an article for publication? Don't worry — our editorial staff is here to help. Just write about what you know and they'll take care of the rest. By sharing your story, you might just save someone's life or an expensive piece of equipment.

Send your submissions to safe.knowledge@conus.army.mil. Don't forget to include your rank, name, unit, address and office phone number so we can get in touch with you. If you have any photos that accompany your article, please send those as well.

ARMY SAFE IS ARMY STRONG

BURNED on the Fourth of July

CHRIS HAIRR
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The Fourth of July is a festive time of year. Many of us get the day off and have cookouts or parties, and some cities and towns hold festivals. Of course, no Fourth of July celebration would be complete without a fireworks display. From skyrockets to Roman candles, fireworks have entertained and captivated young and old for years.

Unfortunately, a lot of people don't take seriously the major hazards related to fireworks. Some even enjoy lighting firecrackers or cherry bombs and holding them in their hand as long as possible before throwing them — sometimes at each other! Even sparklers, which many consider a "safe" firework, can be dangerous. Sparklers can burn up to 1,800 F, and the stick remains hot long after the flame goes out. Still, some parents will readily hand their child a sparkler without a second thought. Some people just don't seem to understand what can happen with these unsafe practices.

Many of those who have used fireworks have a "close-call" story to tell. My father had multiple fireworks incidents when he was younger. However, one particular story stands out.

When he was 15, my father and five of his friends from the neighborhood decided to take some Roman candles to a nearby field. It was a particularly dry summer that year, and the field had tall grass — up to his knees at some points. To remain hidden from police, they chose a spot that was out of sight from the road. They lit their Roman candles and started shooting them almost horizontally. Then, as some foolish people do, they started shooting them toward one another.

IS IT LEGAL?

Before lighting your first fuse, make sure fireworks are legal to possess and use in your city and state. The National Council on Fireworks Safety (NCFS) website has a directory of state laws regarding fireworks, including what items are permitted and prohibited for use. It's also a good idea to ask your local fire or police department if fireworks are legal in your area. Although fireworks may be legal in your state, there may be reasons — such as a burn ban due to dry weather — why their use is prohibited in some areas. For more information, visit the NCFS's website at http://fireworksafety.com.

For about an hour and a half that night, they ran around that field having fun. Then, a scary series of events took place.

A flaming orb from a Roman candle was shot into one boy's T-shirt sleeve. Almost simultaneously, another boy was struck in the eye by one of the colored fireballs. The two injured teenagers and one other stopped shooting their Roman candles so they could check how badly they were injured. The other three boys, including my father, continued playing. About 10 minutes later, my father inadvertently shot a few orbs into an area of thicker, drier grass. Those orbs caused the lower portion of the grass to ignite, and, almost instantaneously, the entire corner of the field was on fire.

When they saw the blaze, they immediately ran away. The majority of the field eventually ended up burning. Fortunately, no property, other than the empty field, was damaged, and none of them were caught by police. My father and his friends were lucky to escape this "near miss." With the fire spreading as quickly as it did, it could've very easily surrounded them, trapping them in the field.

Still, there were consequences to their careless behavior. The young man who had the orb shot up his sleeve had to go to the emergency room with third-degree burns across the underside of his upper arm, along his armpit and down a few inches on the side of his torso. The doctors had to give him skin grafts, and he spent a week in the burn unit to make sure the affected area was kept clean. For as long as he and my father kept in contact, he had bad scars all along the grafted areas.

The young man who was struck in the eye also had to go to the emergency room. He suffered permanent damage to his eye and eyelid and had to have surgery that night. Sadly, his eye sustained too much damage to ever recover, so it had to be removed. It was replaced with a glass eye that he has to live with for the rest of his life. He had to spend two weeks in the hospital recovering from the surgery and the burns to his eyelid.

That night, two people's lives were forever changed. But despite the horrible injuries his friends suffered, my father continued using fireworks unsafely. Eventually, though, he saw the error of his ways.

If you plan to shoot fireworks, please keep my father's story in mind. When used properly, fireworks can add excitement to any celebration. However, in the hands of the careless, the festivities could end badly.«

HANDLE WITH CARE

To help you safely celebrate the Fourth of July, the National Council on Fireworks Safety offers the following tips:

- Use fireworks outdoors only.
- Obey local laws. If fireworks are not legal where you live, do not use them.
- Always have a garden hose or bucket of water handy.
- Only use fireworks as intended. Don't try to alter or combine them.
- Never relight a "dud" firework. Wait 20 minutes and then soak it in a bucket of water.
- Use common sense. Spectators should keep a safe distance from the shooter, and the shooter should wear safety glasses.
- Alcohol and fireworks do not mix. Have a "designated shooter."
- Only persons over the age of 12 should be allowed to handle sparklers of any type.
- Never use homemade fireworks or illegal explosives; they can kill you! Report illegal explosives to the fire or police department in your community.

Me and the Bloo

The "blood principle" states that people are unwilling to invest in the necessary safety precautions until blood is spilled or someone dies. On a day not long ago, I cut corners on safety, broke my own personal operating procedures and inflicted the blood principle on myself.

d Principle

CHIEF WARRANT OFFICER 4 RICH GOLLNER
Western Army National Guard Aviation Training Site
Silver Bell Army Heliport
Marana, Ariz.

My wife and I were on our way to our usual all-terrain vehicle (ATV) riding spot — one that I knew well — when we saw some riders at an area near where we lived. After stopping and chatting with them for a bit, I found out the local authorities were OK with people riding there. Hearing that, we decided to give it a whirl. After all, it saved us a 35-minute drive.

After offloading the ATV, my wife put on her personal protective equipment (PPE) and I handed the "reins" to her. The ATV was new and she needed to get a feel for how it handled. She seemed to be having a wonderful time. I was going TDY the next day and it was good to have some time to enjoy together.

She returned and said the area where she'd been riding would be a great place for me to play. Hearing that, I decided to put on my gear and mount up. She was right. When I got there, I saw some nice built-up turns, a few whoops and a couple of makeshift jumps — nothing too serious and definitely within my skills. Although the ATV was still in its break-in period, I decided to "get on it" a bit to feel how it handled in the turns and whoops. On my second pass, I held back a little, entered the jump too slowly and landed on my front wheels. Fortunately, I knew from experience to shift my weight back to keep the ATV's rear end down. I chuckled at my own "rookie" mistake.

I didn't repeat that mistake on my third jump. I gave the ATV plenty of gas and hit the jump just right. Eager to go around and do it again, I took what appeared to be a shortcut back to the ramp area. I hurried along the shortcut, not realizing that it veered sharply to the right. I couldn't make the turn and

WHAT DO YOU THINK?

Do you ride an ATV? What would you have done different that day? What suggestions would you make to prevent future ATV accidents? Remember, not everyone walks away (see The Good, the Bad and the Ugly, Knowledge, October 2010). Why not take a few moments to share your thoughts with us at safe.knowledge@conus.army.mil?

Also, do you have a good "It Happened to Me" story to tell? Why not share what you've learned with others through this magazine? And if you'd prefer, we don't have to put your name on it. Just think about it. You might keep someone else from learning the hard way. Got ATV? Got Internet? Check out the following website, http://www.atvsafety.org/.

ended up going straight over another berm with a 4-foot drop on the far side. Oops! There was nothing I could do but bail — something at which I had a bit of experience.

I tried my best to soften my ground impact, but after the dust settled, my left hand was tingling and pain wracked both knees. I checked myself to see if anything was broken, but everything moved OK. That said, my pants were ripped open in the knees, and I could see bloody wounds where I once had skin. Hobbling painfully, I collected the ATV and headed back to my truck. As I did, I had time to consider my lessons learned.

First, I blew it by not taking the time to get familiar with the area. The dirt was much softer than I was accustomed to and there were hidden turns I wasn't aware of. I'd ridden in unfamiliar places in the past and used my skills to bail me out of trouble. I usually got away with it — but not this day.

Second, I was unfamiliar with my new ATV and relied on past experience to overcome any handling differences. All ATVs don't handle the same, even if they do have certain characteristics in common. However, I let that make me complacent rather than take the time to really learn my new machine. On top of that, I knew I was pushing the ATV too hard during its break-in period trying to do those jumps. I should have waited until a later date.

Third, I'd ridden for years without shin guards or knee protection and had always gotten away with it. I'd rarely crashed and, when I did, had only minor injuries. I was overconfident and complacent because I'd successfully dodged the bullets in the past — that is, until one finally connected. That's when the blood principle kicked in.

It could have been worse. Aside from some badly scraped knees and sprained wrists, at least I was able to walk away from this accident. I'd made a deposit on the blood principle that day, and you can write "overconfident" on that check. I learned enough that day that I don't want to make any future deposits. This is one account I never want marked "Paid in Full."«

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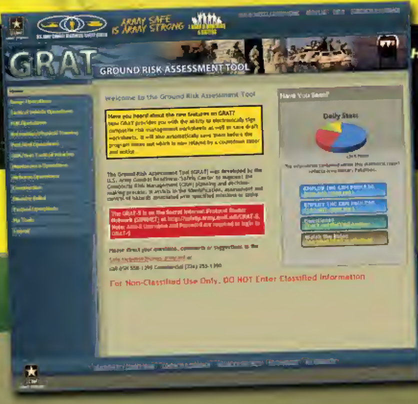
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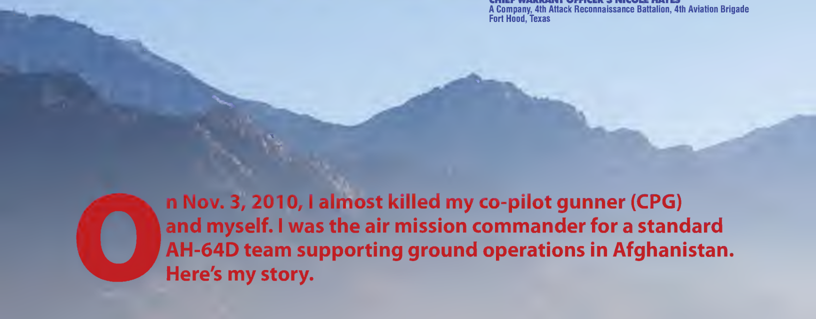
'We HIT the MOUNTAIN!'

CHIEF WARRANT OFFICER 3 NICOLE HAYES
A Company, 4th Attack Reconnaissance Battalion, 4th Aviation Brigade
Fort Hood, Texas



On Nov. 3, 2010, I almost killed my co-pilot gunner (CPG) and myself. I was the air mission commander for a standard AH-64D team supporting ground operations in Afghanistan. Here's my story.

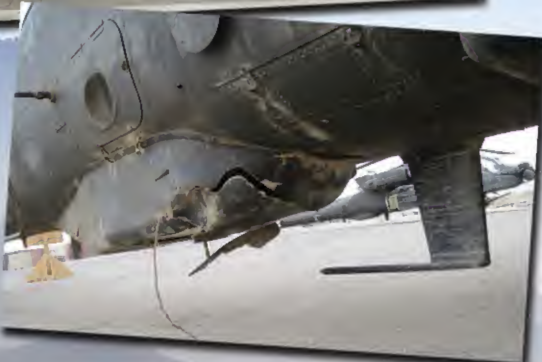
We arrived for our afternoon briefing and received a direct support mission for an infantry battalion. However, the briefed weather was below brigade minimums for mission support.

After receiving heavy ground fire and suffering multiple casualties, the infantry battalion called in for troops-in-contact support. I updated weather for the urgent mission and received a new weather brief of 800 feet and six miles. I was re-briefed and approved to take off with weather above 700 feet and two miles. I was lead in a flight of two AH-64Ds. The previous day I'd flown to the area where we were headed, so I decided to take the same route instead of the published low weather route.

My CPG was a new first lieutenant just out of flight school. I gave him a standard crew brief as we went through run-up procedures. Once we were ready for takeoff, we called the tactical operations center (TOC) and departed the airfield to the west. As we left the fence line, we stayed at 100 to 200 feet above ground level and 110 knots true air speed (KTAS).

We were about 10 miles from the airfield when I saw the canyon we had passed through the previous day en route to the south side of the mountain range. We made the turn to start through the mountain pass and I called my wingman to let him know I'd be slowing to 80 KTAS. We were in the canyon for about a minute when the weather rapidly worsened. As I was making a radio call to my wingman to ask what he thought, visibility suddenly deteriorated and we inadvertently "punched" into the clouds.

I was at the bottom of a 5,000-foot ravine with zero visibility and again called my sister ship to tell him to turn around. I started climbing and told my CPG to back me up on the instruments. I was closer to the left side of the canyon than the right, so I let him know I'd be turning slightly right to avoid contacting the mountainside. About 23 seconds



later, the CPG got my attention by yelling, "Pull up!" I looked up to see that we were about to run into very steep terrain. The low-altitude warning simultaneously sounded. I jerked the cyclic to the left trying to keep the rotor blades from striking the ground. At the same time I pulled full aft cyclic all the way to my seat belt.

It was still not enough. We hit the mountain. I can only describe this sensation as the most terrifying moment of my life! We struck terrain and bounced back into the cloud, smashing the underside of the aircraft into the side of the rock face. Somehow, we managed to keep the rotor from striking the ground. My CPG calmly announced our airspeed had dropped to 12 knots. He sounded as if we were having a normal conversation over a cup of coffee. His cool demeanor helped me to stay calm as well.

We managed to get the aircraft under control and, once again, started to climb through the clouds. Using my moving map for situational awareness, I turned the aircraft to parallel the mountain range as we headed back toward base.

While still climbing through the clouds, we received another

low-altitude warning. We had crossed the east wall of the canyon at just 54 feet. Again, my airspeed bled off as I pulled back the cyclic, desperately trying to stay away from what I couldn't see. My CPG continued to keep us on track by announcing airspeed. A few tense minutes later, we punched through the cloud layer. We were now flying under visual flight rules (VFR). I called my wingman to let him know we had hit the mountain, but we were still flying and were VFR over the top.

My wingman made all the radio calls to tower and the TOC so we could focus on "limping" our aircraft back to base. Anything above 90 knots caused the aircraft to vibrate. We were unaware of the extent of the aircraft damage. However, as we looked out our window, we could see we had knocked the seeker heads off all three of the Hellfire missiles we were carrying. We crossed back over the mountain range and entered the downwind leg of the approach pattern using the moving map. My CPG put up the emergency GPS approach and I flew to it but didn't execute the published procedure. I descended back through the clouds and landed without further incident.

Lessons Learned

I made many mistakes throughout this mission. I pushed my team and myself into weather that was legal, but not smart. This caused me to find myself in a bad way. Faced with the same conditions, I would still take off; however, I'd make sure to use the published low weather route. I was simply taking the same route I had the day before. I had never been on the published low weather route, and I felt more comfortable flying the same course I had just 24 hours earlier.

In addition, I'd make sure my entire team was comfortable with the weather and familiar with the GPS approaches. I'd also make sure not to put myself into another situation without an escape route. I hope by sharing my experience, I can help fellow aviators learn from my mistakes and avoid making the same ones.«

> "We **STRUCK** terrain and **BOUNCED** back **INTO** the **CLOUD**, smashing the **UNDERSIDE** of the **AIRCRAFT** into the side of the **ROCK** face."

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WATER-WISE

CARLLA JONES
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Aberdeen Proving Ground, Md.

As summer approaches, many Soldiers and their Families will seek out recreational activities in or around water. While having fun may be the top priority, following some basic water safety rules could mean the difference between a good time and tragedy.

Did you know that, on average, it takes only 20 seconds for a child and 60 seconds for an adult to drown? Drowning is often a silent event, especially for children because those 5 years old and under don't understand the danger of falling into water and usually don't splash, cry or call out for help. According to the Centers for Disease Control and Prevention, in 2007, there were nearly 3,500 drownings in the United States, averaging about 10 deaths per day.

More than one in five drowning victims are 14 and younger, and for every child who dies from drowning, another four receive emergency care for non-fatal submersion injuries. Unfortunately, for those that only "nearly drown," the result is also often tragic. Near-drowning may result in memory problems, learning disabilities or severe brain damage.

Before taking your Family out for a relaxing dip this summer, keep the following tips in mind:

- Designate a responsible adult "water watcher" to supervise all children swimming or playing in or around water. This adult should not be distracted by anything else — that means no chatting with other people, reading books, talking or texting on a cell phone or grilling.
- Avoid drinking alcohol before and during swimming, boating

FYI

For more information about water safety, visit these Centers for Disease Control and Prevention website at www.cdc.gov/SafeChild/Drowning/default.htm or Safe Kids U.S.A. at www.usa.safekids.org and search for "drowning."

or water skiing. Be especially careful to abstain from alcohol while supervising children.

- For home pools, install a four-sided, isolation pool fence that completely separates the house from the pool area. The fence should be non-climbable and at least 4 feet tall. Use self-closing, self-latching gates that open outward and have latches above the reach of children. Place items that can be used for climbing, such as tables and chairs, away from fences.
- Remove all floats and other toys from the pool immediately after use. These toys can tempt children to enter the pool area or lean over the pool and accidentally fall in.
- Know the local weather conditions and forecast before swimming or boating. Bad weather can make swimming and boating very dangerous.
- Always use U.S. Coast Guard-approved personal flotation devices (PFDs), regardless of the distance to be traveled, the size of the boat or the swimming ability of the boaters. Do not use air-filled or foam toys (like "water wings") in place of a PFD.
- Always swim with a buddy, even if you are an excellent swimmer.
- Anytime your plans involve water-related activities, plan ahead for emergencies. Teach everyone in your group how to use safety equipment and how to call 911. It's also a good idea to learn CPR. Your CPR skills could make a difference in someone's life until paramedics arrive.

Summertime means fun in and around the water. Whether you're at the ocean, lake or neighborhood pool, be water wise and prevent drowning and other injuries.«

WATERLOGGED

Soldiers aren't immune to recreational swimming and boating accidents. Earlier this year, a Soldier drowned when he fell from a boat into chilly water while fishing at a pond. The Soldier, who was not wearing a life jacket, was unable to climb back into the boat and sank below the surface.

In fiscal 2010, eight Soldiers died while participating in off-duty water-related activities, including:

- A Soldier who had been snorkeling in shallow water with Family members was found unresponsive. She was pronounced dead at a local medical center.
- A Soldier drowned in a hotel swimming pool while on a brigade-sponsored retreat.
- A Soldier drowned in a lake when he attempted to swim from a boat to retrieve a can floating on the water.
- A Soldier died when the boat he was operating struck a concrete bridge piling.
- A Soldier drowned when his kayak capsized on a river.

TheBAG-DRAGBoogie

PETER CRANTON
Brooke Army Medical Center
Fort Sam Houston, Texas

June 7, 2006, was supposed to be a special day. It was my girlfriend's birthday and I wanted to surprise her by riding my motorcycle to Atlanta from Valdosta, Ga. To get an early start, I cranked up my bike at 2 a.m. and headed up Interstate 75 North. Little did I know it was going to be a (very) short trip.

I was riding my first motorcycle, a Suzuki GSXR 1000, that I'd bought about a year earlier. The previous year, my girlfriend bought me motorcycle riding lessons from a Harley-Davidson dealership as a birthday gift. She knew how much I wanted to ride. The four-day Rider's Edge course helped me a lot. One of the lessons we were taught was how to properly secure items while riding. Cruiser-type motorcycles, such as Harley-Davidsons, often have saddlebags or even trunks to carry gear. However, on my Suzuki sport bike, I was pretty much limited to whatever I could strap to the gas tank or rear fender.

As I got ready to hit the road that morning, I used a spider bungee cord to strap my travel bag to the rear fender. I checked and double-checked the bag to make sure it was secure before

heading out. As I pulled onto the highway, everything seemed normal. Periodically, I reached back and checked the bag to make sure it was still there. I'd only gone about 20 miles when things suddenly changed.

I was riding in the right-hand lane at 75 mph when the engine light came on and I lost all power. I didn't have a clue what was happening, but I felt like I was riding on ice as my bike skidded at least 100 feet into the fast lane and stopped. Fortunately, my motorcycle training had taught me to not panic, so I didn't lose control.

My mind was racing. Here I was at "0-dark-thirty" on the highway with traffic rapidly overtaking me. I got off my motorcycle and started pushing it into the emergency lane. However, as I pushed, I noticed the bike was difficult to move. When I got into the emergency lane, I checked the bike see what had happened. At first, I didn't notice anything. Then it struck me — "Where did my bag go?" Then I saw where it had gone. The bag I thought I'd properly secured had fallen and become jammed between the motorcycle's fender and rear wheel. That's what locked up the rear wheel and sent me skidding across the road.

As I stood there, my heart was pounding in my chest. I realized how bad the situation could have been had I not been trained to properly handle motorcycle emergencies. Beyond the initial training I received from Harley-Davidson, I'd also taken the Military Sportbike RiderCourse. In an emergency, good training pays off.

I learned that day it is essential to properly secure any bags or luggage when riding a motorcycle. I should have known the spider bungee cord I was using wasn't up to the job. Since the accident, I have looked into buying a tank bag. Had I been using one that morning, I'd have been enjoying the day with my girlfriend instead of doing the "bag-drag boogie" on the interstate.«

Have fun while helping your battle buddy!
MMP
MOTORCYCLE MENTORSHIP PROGRAM
Check out the USACR/Safety Center MMP website for some examples of active mentoring programs.
https://safety.army.mil/mmp/
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MMP
Welcome to the Motorcycle Mentorship Program

KNOWING W
TO SAY

It's 120 F outside and close to 130 F in the cockpit! You're hovering at 50 feet with about 10 feet of obstacle clearance off the side of a ridgeline. You're conducting business as usual, as you follow footprints in the sand to determine which set of tracks you need to pursue. It's HOT! You're not sweating anymore. Did you pay that electric bill online last night? Where's the hose to your CamelBak? The winds are 40 knots, gusting to 55. Nothing out of the ordinary, just another day in the desert. On your last phone call, did you tell your wife and children that you love them? Man, it's HOT! There's the CamelBak hose, but it's no use because there's no water in it. All you can think about is how nice it would be to fly something corporate with a freaking air conditioner! The warning tone suddenly sounds and you have a low rotor condition. How did this happen?

Oftentimes, as aviators, we find ourselves in different mindsets and have different attitudes and opinions about things, depending on how long we're assigned a particular mission. At first, we're excited. Things are new, we've trained for this operation a long time and we're eager to accomplish the mission. We execute and strive to be the best. Our focus is solely on the mission, including completing the mission promptly and as safely as possible. We have purpose and are glad to support our fellow ground troops. We feel good about the mission because we're making a difference.

As time passes, however, rest cycles come into play. After a while, the old adage, "work hard, play hard" comes to mind. Although time off from work is important, our mission takes such high precedence we don't normally get much time off from work. This often leads to fatigue, which can be even more problematic for aviators. Mental fatigue leads to poor decision-making and impaired problem-solving skills. Physical fatigue affects (slows) our response times when we should always be "ahead of the aircraft." Even though we're still focused on our mission, we also realize it's the "mission" that is keeping us from taking time off from work. And while we think we're focused totally on the mission; subconsciously, we're focused on what we're going to do or where we're going to be next weekend.

After painstaking

CHIEF WARRANT OFFICER 2 JOSEPH M. STUPPIELLO
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Rochester, N.Y.

months lapse, we can finally begin to see light at the end of the tunnel. Our deployment is ending and we're soon heading home. Our focus is still on the mission, but our thoughts are on going home to our Families. We've been flying "routine" missions repeatedly and become comfortable with our abilities and our aircraft. We are much more confident than when we began the mission several months ago. Just to keep things interesting, we might push our limits or push the envelope of our aircraft. Because of this, we are much more likely to take higher-risk missions due to a false sense of security we have conjured in our minds. The thought, "It won't happen to me!" emerges; after all, we've been there for several months and experienced every action known … or so we thought.

Aviators are confident and don't let anything stand in their way of accomplishing the mission. A commander might start to believe that he doesn't need pilots in command who choose not to complete a mission simply because they are not "comfortable." The climate within the unit is similar to when we began the mission; however, safety now takes a backseat to mission completion. Toward the end of our deployment, we all just want to be heroes and go home. Unfortunately, some have very little or no regard for safety.

The scenario at the beginning of this article was based on a true story. Fortunately, the pilot made the appropriate corrections to recover the OH-58A/C. What happened was the throttle cable became loose and, as a result, the throttle inadvertently rolled down as the pilot made power adjustments with the collective. The pilot was able to recover the aircraft due to his being familiar with the airframe. He knew this was a problem in this airframe and recognized it en route for the mission. The pilot had an observer on board that day with no flight experience.

Why did the crew decide to continue the mission? Why didn't they abort and get another aircraft? In order to fix a hazardous situation, we must first identify the problem. Once the situation was identified, the pilot took precautionary measures to control the situation. The important things to consider included the following: How many times have we found ourselves in a similar situation? How often do we find ourselves flying around and not even focusing on the mission at hand? How many pilots do we know who have experienced this same type pattern of mission rut? What are some of the things we can do as aviators to fix or mitigate these issues? Do you have the intestinal fortitude to stand up to your superior to tell him or her that you need some time away from the mission? Do you know when to say "when?" «

Horse Sense

CAPT. ADAM HENNING
301st Regional Support Group
U.S. Army Reserve
Butler, Pa.

It was late summer and I, along with the rest of the guys in my platoon, was preparing for my first deployment. We had met a few months earlier during our pre-mobilization training and were already beginning to function as a cohesive team. With about a month left before mobilization, going-away parties were in full swing. It was a nervous time for many of us, but we were determined to make the most of our final days at home.

We took road trips, hiked mountains and even found an old abandoned railroad trestle to climb across that spanned a gap about 80 feet above a river. On this particular day, the activity was horseback riding. A buddy of mine was hosting his going-away party and asked if any of us would like to try a little riding. Having never ridden a horse, and secure in the knowledge of my own invincibility, I decided to give it a go. At first, I did pretty well. As I gained confidence in my newly discovered riding skills, I decided I wanted to go faster. The horse was all too happy to oblige my request for more speed and, like me, ignored the concerns of my buddy, who was saying something about being careful.

It was about this time that I realized two things. The first was horses don't have much in the way of natural "holds." Without a saddle, I found myself beginning to slowly slide to one side of the horse. This brought me to my second realization. While a well-trained horse will slow down with a gentle tug on the reins, this particular horse had a mind of his own. Just about then, my train of thought was interrupted by a disorienting weightless feeling, followed by an unceremonious landing a few inches from the horse's hooves. Fortunately for me, no real damage was done, aside from some minor scrapes and bruises.

My first experience with horseback riding (or horseback falling, as we later dubbed it), made for some funny stories. But the tendency of Soldiers to engage in risk-taking behavior immediately before and after a deployment is no laughing matter. I was lucky; my reminder that I'm not invincible came in the form of a minor, although painful, fall. Many aren't so lucky.

Far too many Soldiers are seriously injured, or even killed, when they engage in risk-taking behavior immediately before or after a deployment. Almost everyone I've spoken to knows someone who had been hurt or had a near miss in the months during their deployment preparation or their recovery period following redeployment. Whether it's the result of feeling invincible or wanting to experience one more thrill before heading oversees, these risky behaviors are a real threat to the safety and mission-effectiveness of our troops.

As safety professionals and Leaders, it's our responsibility to stay engaged with our Soldiers during the entire deployment process. This includes preparation and recovery. By being alert for signs of high-risk behavior, we not only show our Soldiers we care, we just might save a life. «

OFF DUTY, ON GUARD

CHARLES BETONEY
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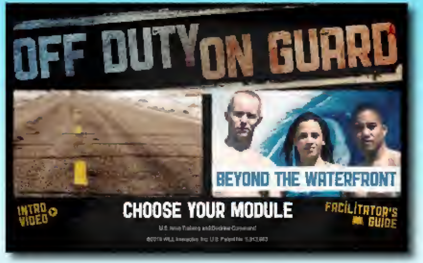
"How can the Army prevent off-duty accidents?" Commanders, supervisors and other Leaders in positions of authority have been asking that very question without much success over the past several years. The Army has made some pretty good progress in reducing on-duty accidents and fatalities, but as those incidents decrease, we're losing a far greater percentage of our Soldiers to accidents suffered during non-duty time.



As a way of expanding the conversation on off-duty accidents and offering reasonable solutions to some of the challenges faced by our Soldiers, the U.S. Army Training and Doctrine Command has produced a video game in the form of an interactive video virtual experience entitled "Off Duty, On Guard." This innovative tool allows viewers to play the parts of various characters, make decisions and see the consequences of their choices. The vignettes are entertaining and based on actual accident experiences. The storylines and characters are believable and easy to identify with and, while not being "preachy," convey a message of what right looks like when prudent, reasonable choices are made.

The video is split into two stories, "Full Throttle" and "On the Waterfront." "Full Throttle" features three main characters (Mags, Vans and Twitchy) with three different storylines, all dealing with vehicle safety issues. Mags' story deals primarily with privately owned vehicle safety; Vans' segment covers all-terrain vehicles and off-road safety; and Twitchy's video covers motorcycle safety.

"On the Waterfront" is a story about six Soldiers spending a Saturday on the lake. Obviously, the tale is about boating and water safety. There are also three main characters (Frickman, Diaz and Grimes) that play major roles in this vignette. Unlike "Full Throttle," there is only one storyline and choosing the different characters allows the viewer to see how each character's actions (or inactions) affect outcomes.

This video is extremely user-friendly and can be presented in a variety of ways (individual, small groups, classroom). It's available now for your spring and summer off-duty safety campaigns at http://www.tradoc.army.mil/offdutyonguard/.

Remember, this tool is not a magic solution to solve all our off-duty safety challenges. It is only the beginning of many potentially productive conversations; how productive they are depends on how effectively you and other Leaders use the tool. «

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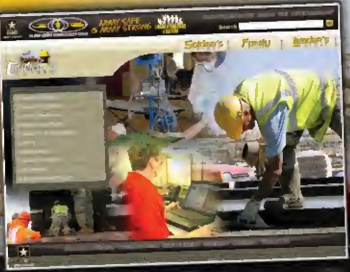

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I BAND OF BROTHERS & SISTERS

LOCKOUT

May Not be the Solution

CHARLES W. LENT JR.
Directorate of Evaluation and Standardization
Fort Rucker, Ala.

Since 2005, a tactic, technique and procedure (TTP) has been slowly gaining acceptance in the UH-60 community that may not be the correct response in all decreasing rotor situations. The mission requirements in Afghanistan have forced H-60 aircrews to perform missions at the limits of aircraft engine performance. Most Army aviators have not experienced these environmental conditions, which require an understanding of engine gas generator speed (NG) and fuel flow limiting.

Although the operator's manual includes information on turbine gas temperature (TGT) limiting, there is little information on fuel flow and NG limiting. Because TGT is the only method of engine limiting mentioned, pilots may believe that bypassing the TGT limiting function of the Electronic Control Unit/Digital Electronic Control Unit (ECU/DECU) will always offer additional power. It is critical for aviators to understand the conditions that cause the engine limiting before placing an engine in lockout.

The General Electric (GE) T700-series engine limits maximum torque available in one of three ways: TGT, NG or fuel flow. Typically, H-60 pilots have been trained to rely on TGT as the best indicator of aircraft power. Until recently, most H-60 pilots flew missions in environments in which TGT was generally the engine-limiting factor. When limited by TGT, bypassing the ECU/DECU limiting function would allow the pilot to increase torque by 2 to 4 percent beyond the dual-engine limiter. When operating in cold environments (below 0 F), the T700-series engine may reach an NG or fuel flow limit before a TGT limit. Below minus 20 C, the engine will always be NG limited and TGT will not reach the dual-engine limiter value.

Here is the danger; pilots who rely only on TGT and fail to consider NG or fuel flow limitations when determining the additional power beyond the maximum torque available may be in for a nasty surprise. That additional power may not be there, a situation that could delay a successful recovery or escape plan. The current charts in the operator's manual, tabular data and the integrated performance aircraft configuration (IPAC) software do not specify whether the maximum torque available figure is TGT, NG or fuel flow limited. However, all give an accurate maximum torque available value regardless of the limiting factor.

Power Limited Approaches and the Value of Escape Routes

Rotary-wing aircraft supporting Operation Enduring Freedom are often required to take off and land at high gross weights in power-limited situations. Anytime a

pilot determines he is in a power-limited situation, it becomes even more imperative to have an executable escape plan for the entire takeoff or landing sequence. A limited power situation is not a go/no-go event since conditions such as wind, turbulence, pilot control input and power required for the deceleration for landing aren't precisely predictable and aren't factored into torque values. Variables may change during the takeoff or landing, causing pilots to exceed the planned and calculated power limit. It is critical while conducting landings during TGT, NG or fuel flow limited power situations that an escape must be executed whenever a rotor droop occurs or anytime power is in question.

Limited power margins should be an indicator to the pilot in command as to whether to attempt the maneuver. As the margin between power available and power required becomes smaller, the quality and necessity of an executable escape plan should be the determining factor in deciding to conduct an approach. Issues such as power to overcome wind, turbulence, downdrafts and deceleration must be factored into the maneuver. Climb/descent power available must be determined before beginning the maneuver and the ability to execute an escape at any point is critical. Where power requirements may be marginal and cannot be accurately calculated, it may be necessary to verify power available by applying power at the same conditions as the landing zone (LZ) before the approach.

When conducting limited power approaches, Task 1011 of the aircrew training manual (ATM) states: "Determining aircraft performance using tabular data, requires that aircrews update performance data when there is an intent to take off or land when operating within 3,000 pounds MAX ALLOWABLE GWT OGE, and when there is an increase of 1,000 feet pressure altitude, and/or 5 C from the planned PPC." Currently, the only method of calculating the data to meet this standard is the tabular data located in the operator's checklist or by using the charts in the operator's manual. During the next revision of the ATM, Task 1011 will be updated to include the use of IPAC software to derive values.

Landing Zone Sequence a Proven Procedure

The Directorate of Evaluation and Standardization, in coordination with U.S. Army Forces Command and 21st Cavalry Brigade, has been involved in training units before deployment to Afghanistan in these limited power situations. The High Altitude Mountain Environmental Training (HAMET) package includes mountain flying considerations, power management, multi-aircraft and night vision goggle operations. It also includes an LZ sequence that is used for all approaches, simulating marginal power and includes terrain analysis. Originally adopted from the High-Altitude Aviation Training Site program of instruction taught at Eagle, Colo., it is an invaluable and proven technique for determining margin available versus power required, a vital consideration when conducting limited power operations. Although trained in mountainous conditions, the techniques can apply to takeoffs and landings in any limited power environment. The next revision of the H-60 ATM will include the following procedure:

Landing Zone Sequence

1. Environmental
- Note temperature at LZ.
- Note pressure altitude of LZ on altimeter setting of 29.92.

2. Suitability
- Size, slope, surface, long-axis, obstacles.

3. Power Requirements
- Tab data/IPAC Max OGE wt ________
- A/C wt (zero fuel wt + fuel) ________
- Difference (+/-) ________
- Percent torque (TQ) (+/-) ________
- Max TQ (Verbalize) ________
- Hover TQ (Verbalize) ________

4. Wind
- Assessment of the direction and velocity of the wind by cockpit indicators, visual indicators, GPS, last known forecast wind or flight maneuvers.
- Analysis of terrain, trees, buildings and their effects upon wind creating updrafts, downdrafts, headwinds, tailwinds, crosswinds and demarcation lines from a large scale down to the touchdown point.

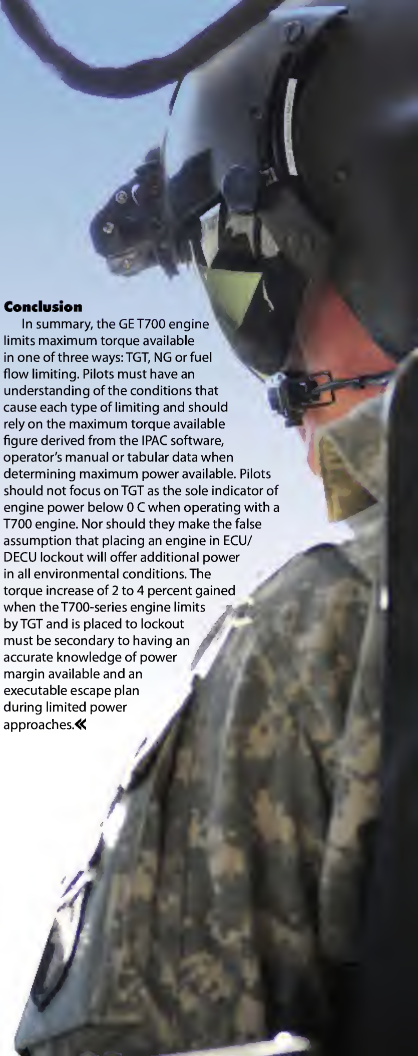
5. Route In/Out/Escape
- Wind should dictate route in, out and escape.
- In calm wind, use the route that affords the best escape.

6. Low Reconnaissance
- Verify wind by using cockpit indicators.
- Ground track versus heading.
- Airspeed versus true airspeed (convert IAS to TAS to make this step accurate).
- A/S versus TQ versus VSI (vertical speed indicator).
- Verify escape.
- Verify touchdown point and suitability.

7. Approach/Takeoff
- Predicted TQ for approach, hover and takeoff. This is an adjustment of the hover TQ, considering level surface and zero wind.
- Expended TQ is the highest amount of TQ used during any part of the maneuvering, approach and takeoff.
- Actual TQ is the amount of TQ to hover.
- If there is a difference between TQ values, discuss why.

Conclusion

In summary, the GE T700 engine limits maximum torque available in one of three ways: TGT, NG or fuel flow limiting. Pilots must have an understanding of the conditions that cause each type of limiting and should rely on the maximum torque available figure derived from the IPAC software, operator's manual or tabular data when determining maximum power available. Pilots should not focus on TGT as the sole indicator of engine power below 0 C when operating with a T700 engine. Nor should they make the false assumption that placing an engine in ECU/DECU lockout will offer additional power in all environmental conditions. The torque increase of 2 to 4 percent gained when the T700-series engine limits by TGT and is placed to lockout must be secondary to having an accurate knowledge of power margin available and an executable escape plan during limited power approaches.«



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A BAND OF BROTHERS & SISTERS
COMING SOON

'ICE' YOUR PHONE

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Imagine finding yourself "speechless" — unable to communicate with emergency responders when you need to most. Maybe you've had an accident and are unconscious. Maybe you've fainted. Maybe you're having a heart attack, stroke or severe allergic reaction and can't talk. The emergency responder needs to know who to contact on your behalf, but you're not able to tell them. That's where your cell phone might be able to "speak" for you.

"How," you ask? Well, it's really pretty easy. Most of us create a directory of contacts on our phones so our family and friends are just a click away. When victims are unable to communicate, emergency responders often check their cell phone directory, hoping to find the number for a family member or other important point of contact. This is where "ICE" comes in.

ICE, as an acronym, stands for "In Case of Emergency." You can create a contact under the title ICE, followed by the person's name and telephone number. If need be, you can create multiple ICE contacts, such as ICE1, ICE2 and ICE3, to add additional phone numbers, perhaps including your family doctor and work associates who need to be contacted during an emergency. Because names in contact lists appear in alphabetical order, some people use an "A" before the word ICE. This allows these numbers to be the first ones seen by emergency responders when they open the directory.

Who would you want to have on your ICE contact list? Your nearest family member would probably top the list, followed by your primary care physician and a work contact.

And while your doctor knows your medical history and is aware of any medications, existing conditions or allergies you have, you need to provide that to others on your ICE list. Remember to provide both daytime and nighttime telephone numbers as appropriate so those on your ICE list can be contacted 24 hours a day.

The ICE idea originated after the terror bombings in London in 2005. One of the paramedics who responded to the scene suggested the idea, which later became a nationwide safety campaign in Great Britain. Its popularity was such that the idea has spread to other countries, including the United States, where many emergency responders have adopted the practice. By creating your own ICE cell phone contact list, you can help emergency responders help you during an emergency.

Editor's note: Information on the ICE program in this article was provided by the American Society of Safety Engineers, available online at http://www.asse.org/.«

Family strong!
Family engagement kit
https://safety.army.mil
Army Safe is Army Strong and that starts with a Soldier's Family. Have the information to help you and your Family stay safe.
Best Practices
FAMILY ENGAGEMENT KIT
TRiPS
GRAT

FLY PREPARED, NOT SCARED

CHIEF WARRANT OFFICER 4 MICHAEL A. HAMBRECHT
United States Army Air Ambulance Detachment
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Editor's note: Chief Warrant Officer 4 Michael Hambrecht was on his way to the airfield for one more autorotation when his engine stopped. Working together as a crew, Hambrecht and his student pilot were able to land the aircraft safely. For his actions, Hambrecht was recognized with the Broken Wing Award.

"If something isn't wrong with a helicopter, it's about to be!" My primary flight instructor said that to me nearly 19 years ago while attending flight school. I couldn't help but wonder what I had gotten myself into. I later learned my instructor didn't come up with the saying that made me believe he was an extreme pessimist. I soon realized he was actually a realist. There are many clichés in aviation based, to some degree, on actual events. Some have been embellished over the years. That particular saying has stayed in my head every flight I've ever been on and has kept me safe so far. It hasn't made me fly scared — just prepared.

The weather was great, the aircraft was ready to fly and our mission planning and preflight duties were complete. All that remained was our administering a simple night vision goggle (NVG) proficiency flight evaluation (PFE). We executed the PFE to standard and without incident. My co-pilot/student (company commander) for the flight was motivated and wanted to conduct another autorotation on the return trip to the "house." I didn't mind the request because he had an excellent control touch and hadn't scared me the entire flight.

We were on our way to conduct the autorotation. Fortunately, we were 1,500 feet above ground level (AGL) instead of descending to the normal NVG pattern altitude of 600 feet AGL. That's when our OH-58C aircraft decided it was finished — right then and there — nine nautical miles north of the airfield.

My pilot (PI) was on the controls, flying straight and level at 90 knots indicated airspeed when the LOW ROTOR light illuminated. I wasn't initially concerned about this since we had already conducted numerous simulated engine failures. I just assumed my PI had inadvertently reduced the throttle or GOV INCR/DECR switch. I verified the throttle was full open, double-checking/second guessing the PI and myself.

The throttle was full open, which made the hairs on my neck stand up, but I couldn't verify the GOV RPM trim switch since I was in the left seat and didn't have one on my side. What I expected to see was the PI's hand resting on the switch, causing the rotor RPM to decrease. His hand was not on the switch, and it was at this point I realized we were in a serious situation.

Then, the audio warning sounded.

The engine hadn't failed. It did, however, go to idle, which isn't technically an engine failure, but it certainly wasn't an "engine success." Remember the "something is about to be wrong" cliché? Just before the incident, I had honestly just said to myself, "If it quits here, there's nowhere to go except behind us." That, combined with the extra altitude at the time of the incident, and luck, is the reason we made it without crashing.

We didn't have a forced landing area in front of the aircraft. I took the flight controls and made a Mayday call while turning 180 degrees left (because I was on the left side) to the last forced landing area I could recall. I had never made a Mayday call before, and I wasn't happy about making it then.

My PI remained extremely calm and was a model of crew coordination. He tried for the remainder of the flight to increase the GOV RPM and assisted with obstacle avoidance. I remember him mentioning there might be wires in the intended landing area, to which I asked him if he'd like me to go around. I sometimes joke to stay calm, along with implementing my "cool-guy pilot voice." Whatever keeps you calm, right? It actually seemed like we had a lot of time after turning to the intended touchdown point. The aircraft's circle of action (where the aircraft will go without manipulating the controls) was short by about 150 feet and I was already at optimal glide profile. I accepted the fact we were going to land in the trees. However, while decelerating, I was surprised to clear the trees into the open area. Because of the size and suitability of the touchdown area, I conducted a zero ground-run touchdown.

The lesson learned is this: Stay proficient in your aircraft. Plan for the worst, hope for the best and never stop flying the aircraft until shutdown.«

LOST

AVIATION

CH-47D

CLASS C

- While conducting night vision goggle (NVG) pinnacle/ridgeline approaches, the aircraft developed unusual vibrations. Training was terminated and the aircraft returned to the airfield. A postflight inspection revealed damage to three rotor blades on the aft pylon.

UH-60A

CLASS B

- The aircraft touched down in a nose-high attitude, damaging the main rotor blades and severing the tail rotor driveshaft.

UH-60L

CLASS B

- During ground taxi under NVG, one UH-60L made contact with another UH-60L, resulting in damage to the main rotor blades and tailboom/vertical fin.

UH-60M

CLASS C

- While conducting NVG dust landing training during relief-in-place operations, the main rotor system struck and severed the tail rotor driveshaft, resulting in damage to all four main rotor blades.

UAS

MQ-5B

CLASS A

- The unmanned aircraft (UA) encountered a 12- to 13-knot crosswind during touchdown, striking an arresting cable drum with the landing gear.

RQ-5B

CLASS A

- The UA impacted terrain during flight.

GROUND

Personnel Injury

CLASS A

- A Soldier drowned when he fell from a boat into chilly water while fishing at a pond. The Soldier, who was not wearing a personal flotation device, was unable to climb back into the boat and sank below the surface.

- A Soldier riding his bicycle was killed when he was struck from behind by an SUV. Four other riders were also struck and taken to a local medical center for treatment.

- A Soldier died after shooting himself in the head. At the time of the incident, the Soldier was reportedly drinking at home with two friends.

LOSSES AVIATION
FISCAL 2011
Class A/Fatalities
thru April 2011

ATTACK	2/0
RECON	2/0
UTILITY	3/4
CARGO	1/0
TRAINING	0/0
FIXED-WING	0/0
UAS	5/0
TOTAL	13/4

as of May 3, 2011

CLASS B

- As a Soldier performed maintenance on a Mine Resistant Ambush Protected All-Terrain Vehicle, a portion of his finger was amputated when it became caught in the gear motor.

DRIVING

POV

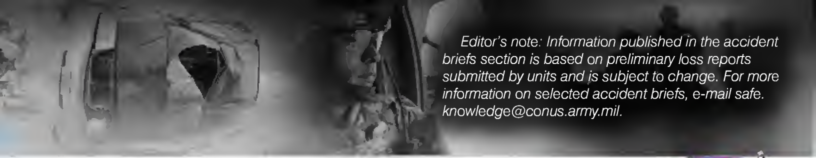
CLASS A

- A Soldier suffered a major head injury when he jumped

LOSSES GROUND
FISCAL 2011
Class A/Fatalities
thru April 2011

AMV	2/0
ACV	4/3
PERSONNEL INJURY includes weapons-handling accidents	16/15
FIRE/ EXPLOSIVE	1/1
PROPERTY DAMAGE	2/0
TOTAL	25/19

as of May 3, 2011



Editor's note: Information published in the accident briefs section is based on preliminary loss reports submitted by units and is subject to change. For more information on selected accident briefs, e-mail safe.knowledge@conus.army.mil.

out of a moving vehicle after an argument with his spouse. The vehicle's speed was estimated at between 30 and 35 mph at the time of the incident.

- ◘ An unbelted Soldier was ejected through his vehicle's rear window after he lost control, crossed the centerline and struck another vehicle head-on. The Soldier was transported to a local medical center, where he died.
- ◘ A Soldier suffered potential permanent disability injuries when he was struck head-on by a vehicle that entered his lane. The Soldier was hospitalized for ankle, leg, pelvic and skull fractures.
- ◘ A Soldier died when he was driving on the wrong side of the road and collided head-on with another vehicle.
- ◘ A Soldier died when his speeding SUV came up on a curb, struck a large rock in a driveway, hit a tree and then overturned and landed on its roof. Although the Soldier was wearing his seat belt, his survivable space was compromised in the crash.
- ◘ A Soldier died when he lost control on wet pavement, went through a median and collided head-on with a tractor-trailer.

CLASS B

- ◘ Two Soldiers were injured when they were cresting the top of a hill and collided with a vehicle approaching in their lane.

POM

CLASS A

- ◘ A Soldier died when he was speeding, went off the road and struck a pipe-supported fence. The Soldier wasn't wearing his helmet, did not advise his command he had a motorcycle and had not completed Army-approved Motorcycle Safety Foundation (MSF) training.
- ◘ A Soldier was killed when he lost control of another Soldier's sport bike at high speed and struck a traffic sign. The Soldier was wearing personal protective equipment with the exception of protective footwear. The Soldier had completed the required MSF training the previous month, but had not gotten his motorcycle license.

LOSSES POV/POM — **FISCAL 2011** Class A/Fatalities thru April 2011

CAR	20/19
SUV/JEEP	6/5
TRUCK	3/3
MOTORCYCLE	21/20
PEDESTRIAN	2/2
OTHER*	2/2
TOTAL	54/51

*Includes vans, ATVs, snowmobiles and bicycles

as of May 3, 2011

Fiscal Year 2010: 55 Three Year Average: 63

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